

MISCELLANEOUS NOTES ON NEOTROPICAL FLORA, VI.

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These notes are descriptions of new taxa in the Compositae extracted from studies for forthcoming monographs in preparation. The relationships of these new taxa will be discussed at length in the final generic revision, following similar lines of the previous contributions of this series. See PHYTOLOGIA 27: 169-179, 1973. The basic work for these notes has been partially sponsored by the National Science Foundation (Grant GB. 32086XZ), Washington, D.C.

ESPELETIA BROMELIOIDES Cuatr. sp. nov.

Caulis lignosus ad 4-5 cm diametro prostratus rhizomatosus vel erectus usque ad 40 cm longus vel decumbens, cortice valde cicatricoso, rugoso-tuberculato cum reliquis foliorum marcescentium tectus, rosulam terminalem ferens et ramulos subterminales foliatis formans. Rosulae 30-50 cm latae virides foliis copiosissimis erectis et erecto-patulis, proximalibus saepe gemmiferis, instructae.

Folia coriacea crassiuscula rigida vel flexibilia sessilia. Lamina elongate triangulata sine sensu acuminata vel ensiformi-acuminata, acuta, supra basim leviter vel obsolete attenuata, basi indistincte in vaginam brevem planam vix ampliata producta, 19-30 cm longa, infra medium usque ad 1.4-2.6 cm lata, basi usque ad 1.2-2 cm angustata, margine revoluta aspectu integerrima sed denticulis callosis crassiusculis mucroniformibus adaxiale recurvis sparsis cum indumento omnino occultis; supra viridis vel olivaceo-viridis nitida, in sicco olivacea, excepto ad costam anguste sulcatam basim versus latiore densissime crasseque adpresse villosa-sericeam (pilis tenuissimis sericeis antrorsis ad 3 mm longis) glabra, laevis nervis secundariis obsoletis interdum tantum circa basim una vel duobus venis linearibus angustissime sericeis visibilibus; subtus crasse densissime adpressissimeque villosa-sericea viridi-cinera nitida, pilis tenuissimis antrorsis circa 2 mm; nervatione obsoleta cum vestimento omnino tecta sed infra indumentum valde prominenti, costa crasse basim versus magis ampliata bisulcata costulata laterale striolata circa basim robustiori saepe argute 7-costulata, nervis secundariis minoribus 7-10 utroque latere, inferne saepe 3-4 magis notatis, subparallelis, angulo 5-10° ascendentibus parte media angulo 15°, sursum nervis gradatim minus conspicuis magis apertis (20-40°), nervulis minoribus prominentibus crassiusculis minutum reticulum elevatus formantibus, areolis valde profundis angustissimis pilis tenuissimis crispis munitis.

Vagina crassiuscula brevis levissime ampliata saepe utroque latere 4-nervata, subplana, adulta 1.5-2.5 x 1.4-2.5 (basi) cm.

Inflorescentiae terminales racemoide paniculatae vel corymboide-paniculatae erectae 55-85 cm altae 8-24 cm latae. Axis robustissimis lignosus fistulosus vel medullosus extus argute costatus striatusque parte media vulgo 1.5 cm diametro basi usque ad 4 cm diametro, plerumque purpurascens interdum pallide viridis, densiuscule vel copiose villososericeus pilis longis (3 mm) ascendentibus laxiuscule intricatis, inferne dense ceterum copiose foliosus, dimidia parte superiori tantum ramosus. Folia basilaria congesta rosularia similissima adjacentia paulo breviora vagina breviori, supra basim 25-15 x 2.2-1 cm, cetera folia sterilia sursum gradatim paulo minora 20-12 x 1.5-1.2 cm, plerumque lineari-sublanceolata acuminata basi semiamplectenti textura indumentoque basilaria similia. Rami numerosi erecti robusti recti vel arcuato-ascendentes inferiores usque ad 25 cm longi et 7 mm crassi sed vulgo angustiores, saepe sursum gradatim breviores, purpurascens interdum pallide virides, semper densiuscule villososericei, pilis albis patulo-ascendentibus 1-1.5 mm dense vestiti, tantum tertio superiori ramulosis, ramulis erectis corymboide dispositis in ramusculos divisus. Ramusculi villososericei hirsutuli purpurascens, interdum luteo-viriduli, 1-6 capitula primum valde congeste glomerata denique conspicue pedicellata ferentes. Pedicelli antrorso-patulo-pilosi purpurei vel viriduli, ebracteati, 2-15 mm longi, post fructificationem vetusti robustiores 0.2-3 cm longi. Folia ramos subtendentia excedentia, triangulari-linearia acuminata circa 16-10 x 1.8-0.8 cm, suprema 4-3 x 0.8-0.3 cm, in bracteas transientia. Bracteae ramusculos pedicellosque subtendentes longiores subcoriaceae triangulari-lineares vel lineares supra glabrae subtus sericeae 3-1 x 0.5-0.15 cm.

Capitula subdiscoidea subglobosa, 7-13 mm diametientia visu atropurpurea vel atroviridia, (42-)70-125 flores ferentia. Involucrum cupulatum. Phyllaria sterilia 6-12, raro 4-2, discum attingentia interdum longiora, 1-2 seriata 9-6 x 2-1.4 mm, crassiuscula herbacea purpurascens vel atroviridia vel pallide viridia, linearia sursum attenuata subacutataque, incurva, adaxiale glabra saepe 5-venosa, abaxiale dense subadpressequ villosa pilis rigidulis acutis ascendentibus 1-1.5 mm longis, interdum glandulis pediculatis interspersis ad margines conspicuis, apice calloso glabro. Phyllaria fertilia 6.5-4.5 x 2.2-1 mm linearia vel oblonga, externa sterilia similia vel dorso basique incrassata semiamplectenti, cetera deorsum angustata apice angulata ad costam incrassata marginibus membranaceis 2-3 venis utroque latere, dorso et sursum dense breviterque pilosa pilis subadpressis sursum obtusis et subclavatis 0.2-0.4(-0.5) mm, plus margine glandulis capitato-pediculatis circa 0.05 mm longis bene conspicuis. Receptaculum convexo-conicum 5-6(-3.4) mm diam, glabrum vel parciissimis pilis. Paleae 4-5(-5.5) x 1.3-2.5 mm subscariosae cum costa

crassiori rigida, oblongae vel ovali-oblongae basim versus angustatae apice acutae vel subacutae, utroque latere 2-3-venosae, amplectentes, dorso mediale moderate sursum dense antrorso-pilosae pilis fusco-rubris obtusis vel subclavatis 0.2-0.4 mm, et glandulis pediculatis 0.05 mm saepe copiosis.

Flores marginales feminei (21-)30-47 in capitulo 3(-2)-seriati. Corolla valde reducta, 1.2-2.5(-3) mm longa semper quam stylus brevior; tubo bene evoluto 0.6-1.2 mm longo basi incrassato apice cum annulo interiori crassiusculo instructo, extus dense vel copiose piloso pilis hyalinis crassiusculis obtusis vel subclavatis vel clavatis interdum subacutis 0.2-0.5(-0.8) mm, patulis vel ascendentibus et glandulis capitato-pediculatis interspersis munito, apice adaxiale saepe minuto dente obtuso vel emarginato vel raro lineari elongato; lamina minima lutea vel luteo-viridi, 0.5-1(-1.5) mm longa, elliptica vel lingulata 0.2-0.5 mm lata, minute 2-3-dentata vel edentata, vel in 2,3 (raro 4) lobulos vel lacinulas minutas aequilongas vel inaequales partita vel ad dentem minutum seu inconspicuum reducta, abaxiale plus minusve pilosula. Stylus 2.5-4 mm longus purpurascens, ramulus crassiusculus 0.6-1 mm. Ovaria oblonga triquetra apice obtusa basim angustata acutaque. Achaenia exteriora obovato-oblonga triangulata basi acutissima dorso subplano vel convexo, arcuata, 2.1-2.8 x 1.1-1.3 mm, interiora 2.3-3 x 0.6-1 mm, magis oblonga laterale compressa dorso protrudo vel quadrangulata.

Flores disci pseudohermaphroditi (21-)40-75 in capitulo. Corolla luteola 4.5-5.5 mm longa, tubulo 1.8-2.5(-3) mm, glabro (raro parciissimis pilis), limbo campanulato-tubuloso, sursum infra lobos sparsis pilis et glandulis, lobis 0.7-1 mm longis inaequalibus, oblongo-triangularibus acutis marginibus incrassatis et papillosis, abaxiale sursum densiuscule pilosis pilis antrorsis rubro-fuscis subclavatis vel clavatis vel subobtusis 0.15-0.3(-0.4) mm deorsum sparsis vel copiosis glandulis obovatis subsessilibus, apice calloso nudo. Antherae 1.7-2 mm, appendice ovata subacuta 0.4-0.45 mm longa. Stylus 4.5-6 mm. Nectarium tubulosum 1-1.3 mm longum profunde 5-dentatum.

Typus: Venezuela, Mérida: Páramo de Las Coloradas, Potreros de San Rafael, 2600-2700 m, inflorescencia con eje central, lígulas amarillas, 18-20 Jun 1974, M. López-Figueiras & H. Rodríguez 9054; holotypus, US; isotypus, MERF. Ibidem planta acaule hasta 70 cm altura total, inflorescencia central, 18-20 Jun 1974, López-Figueiras & H. Rodríguez 9044 (US, MERF, paratypes). Ibidem, inflorescencia central 30-50 cm, eje purpuráceo, lígulas amarillas, estilo purpuráceo, flores del centro cremoso-amarillentas, 18-20 Jun 1974, López-Figueiras & H. Rodríguez 9042 (US, MERF, paratypes). Ibidem, inflorescencia central en fructificación avanzada, 9 Jan 1974, López-Figueiras, H. Rodríguez & A. Carabot 8955 (US, MERF). Ibidem, 2850 m, rosetas verdes semibrillantes o mates, gregarias por ramificación basilar, hoja blanco-cinéreo-seríceo o argentada envés, 9 Febr 1973, Cuatrecasas, Ruiz-Terán & López-Figueiras 28533 (US, MERF). Id. El Portachuelo (El Ramal), 2800 m, acaulirrosuleto 40 cm alto, estéril, 4 Ag 1970, Ruiz-Terán & López-Figueiras 409 (US, MERF). Ibidem, tronco hasta 40 cm, cubierto de residuos de

hoja marcescente, hojas verde pálidas, brillantes haz, verdoso cinéreas envés, inflorescencia central muy joven, con capullos, lígulas incipientes amarillas o algo verdósulas, estilos amarillos, flósculos amarillo claros. 8 Febr 1973, Cuatrecasas, Ruiz-Terán & López-Figueiras 28503 (US, MERF).

ESPELETIA COLORADARUM Cuatr. sp. nov.

Caulirosula ad 2.5 m alta. Caulis lignosus erectus sursum medulosus deorsum fistulosus, basi 5 cm diam, apice subtruncato-rotundato 3 cm diametro, subapicem dense foliatus internodiis densissime sericeo-barbatus pilis strictis antrorsis 6 mm longis inter folias adpressis, infra rosulam foliis marcescentibus pendulis copiosis et vaginis foliorum emortuorum remanentibus adpressis obsitus, deorsum denique denudatus cortice ochroleuca crebre cicatricoso-striata internodiis subsemicircularibus 1-4 mm longis. Rosulae comosae dense foliatae visu albescenti-cinereae. Gemma terminalis et folia initialia adjacentia revoluta dense longeque albo-villoso-sericea.

Folia coriacea rigida subsessilia. Lamina anguste oblanceolato-linearis vel sublanceolato-linearis vel linearis apice acuminata valde acuta inferne gradatim usque ad basim in brevem pseudopetiolum anguste alatum raro exalatum angustata, infra basim subite in vaginam planam amplectentem ampliata, margine revoluta visu integra sed dentibus mucroniformibus crassiusculis callosis ad 0.5 mm, abaxiale recurvatis leviter conspicuis, 24-41 cm longa, 2-6 cm lata; supra juvenilis dense nitideque longe sericea deinde glabrata costa lanuginosa excepta, denique excepto ad basim lanuginosa omnino glabra, pallide viridis vel luteolo-viridis costa plana vel sursum leviter sulcata deorsum paulo prominenti; subtus dense crasseque lanata albo-cinerea vel albo-ochraceo-virescens, costa prominenti robusta striolata deorsum bisulcata primum dense villosa-sericea deinde glabrata sed inferne persistente longe villosa-gossypina, nervis secundariis valde prominentibus, angulo (60-65-75°(-80°) ascendentibus, parallelis 2-5(-6) mm inter se distantibus, vulgo 3-4(2-5) in 1 cm, cum crasso indumento occultis sed praecipue denique plus minusve signatis, nervis tertiis et minoribus etiam prominentibus reticulum densum elevatum formantibus areolis profundis cum lanicula repletis. Basi lamina circa basim valde angustata pseudopetiolum alatum formantibus (5-20 mm longum) interdum brevissime (5 mm) ad costam reductum, semper dense longeque villosa-gossypinum. Vagina coriacea semiovata vel subsemiorbicularis vel oblongo-ovata (in juvenili angustior), 3-2.5(3.5-4) cm longa (6-)5-3 cm lata, argute multi (34-50)-nervata, intus glabra, extus dense adpresseque albo-sericeo-barbata pilis ad 10 mm longis.

Inflorescentia terminalis corymbiforme paniculata valde floribunda usque ad 48 cm alta 40 cm expansa folia rosularum attingens vel paulo excedens. Axis lignosus, basi 2 cm diam, robustus angulatus a basi foliatus et conferte ramosus. Rami principales 16-18, lignosi robusti rigidi ascendentes; inferiores patulo ascendentes longiores verticem attingentes 50-40 cm longi,

inferne (4-) 10-20 cm longitudine nudi, circa $2/3$ vel $1/2$ et cum uno duobus paribus foliis oppositis vel plerumque alternis, oblongis acute acuminatis 17-9 x 2-1.8 cm sursum decrecentibus internodia semper valde excedentibus textura indumentoque ceteris foliis similibus, ramulis 5-7 plerumque alternis erectis vel ascendentibus in parcos ramusculos 3-8 capitula plus minusve glomerata ferentes divisus: alteri rami basilares similes sed sursum in totum gradatim breviores, ultimi juxta verticem 10-8 cm longi axem excedentes. Axis, rami ramulique omnes epidermide purpurascenti sed dense longeque villosogossypini, albicanti, pilis albis sericeis ascendentibus inferne 5 mm, sursum ? mm longis deinde flexuosis intricatisque crassiuscule molleque tecti. Folia ramos primarios subtendentia rosularia similissima sed breviora, proximalia 36-27 x 3.4-2.5 cm, cetera sursum gradatim minora sed semper partem indivisam ramorum bene superantia, et vaginis amplectentibus. Folia ramulos subtendentia etiam cetera folia similia rigida et sursum gradatim breviora (14-6 x 2-1.2 cm) cum vagina evoluta amplectenti saepe purpurea diluteque gossypina, suprema magis acuminata acutissima ad 3-2.5 x 0.7-0.3 cm reducta et in bracteas transientia. Pedicelli 2-7 mm longi primum brevissimi capitulis congeste glomeratis maturitate elongati usque ad 15 mm longi, dense villosolantati. Bracteae rigidulae ovato-acuminatae acutae concavo-amplectentes plurinerviae intus glabrae acumine excepto extus lanugineae.

Capitula radiata ligulis amotis depresso subglobosa 8-10 mm lata, 66-102 flores ferentia, circulo ligularum 11-16 mm disco 7-10 mm diametro. Involucrum cupulatum leviter albido-lanuginosum. Phyllaria sterilia 5-8, crasse herbacea, capitulum haud excedentia 7-5 x 4-3 mm, ovata acuminata apice acuta saepe apiculata subplana, intus glabra obsolete 5-9-nervata extus albido longe villosolanuginosa pilis strictis antrorsis vel intricatis 1.5-2 mm longis et glandulis interspersis globoso-obovoides ad margines plus minusve conspicuis. Phyllaria fertilia 5.5-4 x 3-2.3 mm ovato-acuminata vel ovato-ovalia seu ovato-oblonga acuminataque basim plusminusve angustata, incurvata vel concava, subamplectentia, intus obsolete plurivenosa, extus dorso longe ascendente villosolantati pilis strictis 1-2 mm longis sursum brevioribus subapicem aliquis pilis obtusis vel subclavatis saepe intermixtis, apice acuto nudo, glandulis obovoides subsessilibus interspersis praecipue sursum ad margines et dorso saepe copiosis conspicuisque. Receptaculum convexo-conicum glabrum vel sparsissimis minutis pilis obsitum. Paleae 4-5 x 1.2-2 mm ovali-oblongae vel obovato-ovales apice acutatae saepe callosolapiculatae membranaceae marginibus late scariosis amplectentes subcucullatae dorso sursum breviter copioseque antrorso-pilosae pilis subclavatis vel clavatis brunnescentibus vel rubescentibus 0.1-0.2(-0.3) mm et glandulis sessilibus vel subsessilibus globoso-obovoides, sparsis vel copiosis sursum munitae.

Flores marginales feminei ligulati 2-3-seriati, 16-32 in capitulo. Corolla alba 4-7.3 mm longa, tubo 0.7-1.2 mm, dense piloso pilis hyalinis patulis vel ascendentibus rectis vel subflexuosis crasse subclavatis et clavatis 0.2-0.6 mm, et parcis

glandulis interspersis obovatis subsessilibus vel breviter pediculatis, fere inconspicuis, apice tubi saepe 1-2 appendicibus linearibus ad 1.5 mm longis adaxiale praedito; lamina elliptica vel oblonga 1.5-2.2 mm lata, saepe 3-2-dentata, 5-9-nervata adaxiale glabra abaxiale inferne sparse pilosa et glandulosa reliqua glabra. Stylus 2.5-3.5 mm longus ramis crasse subulatis 1-1.5 mm longis. Achaenia nigricantia, exteriora 2.2-2.3 x 1.5 mm obovoideo-triangularata basi acuta, interiora 2.5 x 1 mm magis oblonga laterale compressa subquadrangularata interdum quadrangularata.

Flores disci pseudohermaphroditi 47-73 in capitulo. Corolla lutescens 3.8-4.8 mm, tubo 1.5-1.8 mm crassiusculo, copiose vel sparse piloso pilis hyalinis ascendentibus substrictis vel crassiusculis subclavatis 0.1-0.3 (-0.4) mm, et sparsissimis glandulis obovoideis subsessilibus, limbo tubuloso-infundibuliformi subglabro basi parvis pilis, lobis oblongo-triangularibus 0.8-1.2 mm, saepe inaequilongis margine incrassato adaxiale dense papilloso, dorso parvis vel copiosis glandulis obovoideis subsessilibus, et parvis pilis clavatis minutis 0.1-0.2 mm vel nullis. Antherae sagittatae 1.7-1.8 mm appendice circa 0.35 mm ovata. Nectarium 0.6-0.8 mm tubulosum breviter denticulatum.

Typus: Venezuela, Mérida: Potrereros de San Rafael en Páramo de Las Coloradas, 2700 m alt, arbolito no ramificado 2.8-3 m, hojas terminales, inflorescencia central, lígulas blancas, 3 Jul 1974, M. López-Figueiras & M. Keogh 9108; holotypus, US; isotypus, MERF. Ibidem, caule 0.7-1 m, lígulas blancas 18-20 Jun 1974, López-Figueiras & H. Rodríguez 9046, 9047 (paratypi, US, MERF). Ibidem 2850-2950 m, tronco simple 1.5 m alt., 4.2 cm diam. base, rósula porte cinéreo, hoja verdoso-amarillenta mate haz, blanco-cinerea envés cogollo verdoso-blanquecino sericeo, meristemo terminal redondeado-truncado 2 cm diam., estéril, 9 Febr 1973, Cuatrecasas, Ruiz-Terán & López-Figueiras 28531 (US, MERF). Loma de La Libertad junto a El Portachuelo (El Ramal) 2850 m, caulirrósula, tallo 1 m, hoja coriácea verde clara haz, blanco cinerea envés, estéril, 8 Febr 1973, Cuatrecasas, Ruiz-Terán & López-Figueiras 28512A (US, MERF). Ibidem, La Montaña, 2850-2900 m, caulirrosuleto 2.5 m, estéril, 5 Aug 1970, Ruiz-Terán & López-Figueiras 493 (US, MERF).

ESPELETIA JOSEPHENSIS Cuatr. sp. nov.

Caulirosula usque ad 2.5 m alta. Caulis erectus lignosus ad basim 5 cm diametro apice congeste rosulato-foliosus et sericeo-barbatus, rosula 60-80 cm lata, habitu viridi-cinerea, infra rosulam foliis marcescentibus pendulis copiosissimis et cum vaginis foliorum remanentibus adpresse tectus, interdum denique deorsum exfoliatus et trunco visibili, cortice glabrato pallide griseo cicatricibus transversis inaequalibus 4-8 mm distantibus instructo. Gemmae foliaque initialia breviter revoluta dense villosa-sericea albo virescentia.

Folia coriacea rigida sessilia vel subsessilia. Lamina oblanceolata sursum gradatim attenuata, acuta deorsum longior gradatim angustata, interdum ad basim breviter pseudopetiolata,

basi subite in vaginam planam amplexentem ampliata, margine revoluta in adultis leviter undulata, obsolete dentata dentibus callosis mucroniformibus 0.5 mm abaxiale recurvis paulo conspicuis, 30-50 cm longa 4.5-7.5 cm lata, basi usque ad 1.2-0.9(-0.7) cm latam angustata, vero sessilis vel interdum breviter ad costam reducta 1-2 cm longe pseudopetiolata; supra griseo-viridis primum pubescens vel puberula pilis albis rectis vel curvis subadpressis tecta ad costam dense adpresseque pubescenti-sericea pilis antrorsis rectis acutis 2 mm, denique glabrata rugulosa costa paulo impressa conspicua nervis secundariis filiformibus leviter impressis discoloris signatis, reticulo minutissimo inter rugulositates instructo; subtus pallide viridi-cinerea juvenilis densissime deinde molle lanata, sed costa adpresse villosa-sericea pilis tenuissimis rectis antrorsis circa 3 mm, denique deciduis denudata, costa crassa elevata striolata utroque latere angulato-sulcata, circa basim gradatim ampliata magis robusta et argutius striata, nervis secundariis bene prominentibus subregulare parallelis (3-)4-6(-8) mm inter se distantibus (2 in 1 cm), angulo 65°(60-70°) ascendentibus, nervis tertiis cum quaternis in reticulum polygonalem prominentem minutum anastomosatis, venulis reticulum prominulum minutissimum inferne instructis, areolis intrareticularibus minuta lana crispa alba praeditis. Pseudopetiolus 0-2.5 cm longus, angustissime vel haud alatus. Vagina coriacea subsemi-orbicularis multinervata apice rotundata basi leviter arcuata, adaxiale tantum infra apicem dense villosa-lanuginosa reliqua glaberrima, abaxiale dense longeque villosa-subsericeo-barbata pilis strictissimis sericeis antrorsis 10 mm longis inter vaginas compressis.

Inflorescencia terminalis magna corymbiforme paniculata subobconica valde floribunda circa 60 cm alta 90 cm diametiens folia rosularia paulo longior. Axis lignosus valde robustus basi 2.5 cm crassus, tricostato-sulcatus striatusque a basi foliosus et ramosus. Rami principales 18-20 etiam lignosi robusti rigidi patulo-ascendentes, supremi erecti; inferiores longiores verticem attingentes usque ad 75 cm longi, basim 10 cm longitudinem nudi, supra 5-6 foliis sterilibus alternis vel duobus oppositis (internodiis 8-10 cm longis) sublanceolato-oblongis acuminatis acutis internodia semper valde excedentibus, 24-9 x 4.5-1.8 cm sursum decrescentibus, textura et indumento ceteris foliis similibus, ramulis 5-7 plerumque alternis interdum oppositis erectis vel ascendentibus in aliquos ramusculos 1-9 capitula plus minusve glomerata ferentes divisus; alteri rami basiliares similes sed sursum in totum gradatim breviores, ultimi juxta verticem 10-7 cm longi axem superantes. Axis rami ramuli ramusculique omnes striati epidermide plus minusve purpurascenti et laxiuscule longeque villosa-gossypini, pilis sericeis ascendentibus inferne ad 5 mm longis albidis vel ochroleucis sursum brevioribus deinde flexuosis intricatisque indumentum lanugineum laxum ad ramulos formantibus. Folia ramos primarios subtendentia rosularia similia sed breviora, proximalia 33-26 x 5-4.5 cm, cetera sursum gradatim minora sed semper partem

indivisam ramorum superantia, vaginis amplexentibus. Folia ramulos subtendentia etiam cetera folia similia, sed sursum gradatim minora (12-4.5 x 2.7-0.7 cm) et indumento breviori, cum vagina evoluta amplexenti viridi intus glabra extus albo-lanuginea, suprema magis acuminata acutissima in bracteas transientia. Pedicelli primum brevissimi deinde evoluti 3-10 mm longi, copiose longeque villosi-lanuginosi, pilis ad 3 mm longis patulo-flexuosis plerumque intricatis ochraceis (in sicco). Bracteae 10-15 x 4.5-5 mm, amplexentes, ovato-acuminatae plurinervatae extus praecipue deorsum sparse villosae margine ciliatae ciliis 1-1.5 mm.

Capitulata radiata ligulis amotis semiglobosa vel depresso subglobosa 10-12 mm lata, 78-124 flores ferentia, circulo ligularum 18-20 mm disco 9-10 mm diametro. Involucrum cupulatum viride, dilute villosi-hirsutum. Phyllaria sterilia 7-8 crasse herbacea ovato-acuminata acuta, 9-6 x 5-3.5 mm, 5-7-nervata, extus praecipue deorsum marginibusque dilute villosula pilis subpatulis tenuibus acutis 1-1.5 mm interdum sursum aliquis obtusis brevioribus et dorso margineque glandulis crasse pediculato-capitatis brevibus 0.03-0.05 mm longis copiosis praedita. Phyllaria fertilia 5.5-4.5 x 4-2(-1.5) mm, exteriora quam sterilia similia interiora gradatim angustiora tenuiora, amplexentia oblonga apice angulata acutaque deorsum angustata obsolete plurivenosa, dorso pilis sparsis 0.5-1 mm, sursum copiose pilosa pilis erectis obtusis et subclavatis rubrofuscis 0.6-0.2 mm longis et glandulis copiosis pediculatis vel subsessilibus munita. Receptaculum convexo-conicum glabrum 4-6 mm diametro. Paleae 4.5-5 x 1.5 mm scariosae amplexentes oblongo-ovales apice angustato triangulato subcucullato, rubri-fusco-piloso pilis clavatis 0.2-0.3(-0.4) mm antrorsis erectisque, parvis pilis tenuioribus interspersis et copiosis glandulis crasse obovoideis subsessilibus vel breviter pediculatis (ad 0.05 mm longis) obsitae.

Flores marginales feminei ligulati 2(-3)-seriati, 22-30 in capitulo. Corolla lutea 6.5-7.8 mm longa, tubo 0.7-1 mm, copiose piloso pilis crassiusculis hyalinis patulis rectis vel flexuosis subclavatis et clavatis 0.4-0.8 mm, et glandulis capitatis breviter pediculatis 0.03-0.05 mm longis interspersis. Lamina latiuscule oblonga vel leviter subobovato-oblonga apice obtusa breviter 2-3-dentata, 2-2.6 mm lata basim paulo attenuata basi adaxiale aperta, 5-6-nervata, adaxiale minute mamillato-papillosa abaxiale supra basim parce pilosa glandulosaque sursum glabra vel sparsissimis glandulis. Stylus 3 mm longus ramis crasse subulatis 1.5-1.8 mm. Ovaria obovoideo-oblonga basi acuta exteriora triangulata 2.5 x 1.1 mm, interiora laterale compressa magis oblonga subrhomboideo-quadrangulata 2.6-2.8 x 0.7 mm. Achaenia immatura.

Flores disci pseudohermaphroditi 54-94 in capitulo. Corolla luteola 6-6.5 mm longa, tubulo angusto 2.5-2.8 mm longo sparsis pilis hyalinis subclavatis subpatulis 0.2-0.4 mm et sparsis glandulis brevibus crassiusculis capitato pediculatis; limbo infundibuliformi subglabro, lobis oblongo-triangularibus acutis 1 mm longis margine incrassato papillosoque, abaxiale copiosis

glandulis crassiusculis obovatoideis subsessilibus et parvis vel raris (vel nullis) pilis clavatis fusco-rubris 0.1-0.2 mm. Antherae 2.2 mm longae sagittatae appendice ovata acutata 0.45 mm longa. Stylus 5-6 mm. Nectarium tubulosum 0.7 mm altum apice irregulariter denticulatum.

Typus: Venezuela, Mérida: Páramo de San José de Acequias arriba de Veguilla, 2600 m alt, arbolito 2-2.5 m, hojas jóvenes verdosas haz, blanco lanosas envés, inflorescencias con eje central, lígulas amarillas, 18-20 Jul 1974, M. López-Figueiras & H. Rodríguez 9073; holotypus, US; isotypus, MERF. Páramo de San José, El Cupís, 3100 m, caulirrósula, tronco 60 cm, hoja coriácea verde grisácea haz, verdoso-cenicienta envés, estéril, 1 Feb 1973, Cuatrecasas, Ruiz-Terán & López-Figueiras 28449 (US, MERF).

ESPELETIA LEUCACTINA Cuatr. sp. nov.

Caulirosula sessilis, vel subsessilis. Caulis ad 30 cm longus 5 cm diametro ad apicem truncato-rotundatum foliis copiosissimis erectis et patulo-erectis rosulam magnam visu viridi-albam formantibus, internodiis dense albo-barbatis pilis sericeis antrorsis ad 10 mm longis inter vaginas foliorum adpressis. Gemma centralis et folia rosularum juvenilia adjacentia, longe angustaque linearia acuta valde margini-revoluta, dense adpresseque albo-sericea argentata nitidaque.

Folia coriacea rigida sessilia. Lamina elongata, anguste oblanceolato-linearis, apicem versus angustata acuta, basim versus sensim sine sensu attenuata basi gradatim ampliata et in vaginam dilatatam producta, 32-50 cm longa 1.9-3.2 cm lata, inferne supra basim usque ad 1.6-1 cm latam angustata, margine bene revoluta visu integerrima sed dentibus minutis callosis mucroniformibus inter se saepe 2-4 mm distantibus abaxiale recurvis cum vestimento occultis; supra viridi-cinerea sericea pilis tenuibus antrorsis adpressis densis 0.5-1.5 mm longis vel longioribus, tantum costa conspicua sursum angustissima deorsum gradatim crassiori inferne dilatata robusta striata elevata, densissime longeque argentato-sericea pilis 3-5 mm longis; subtus alba vel viridi-alba longe villosa-lanuginosa pilis 3-6 mm longis sericeis ascendentibus plus minusve curvatis vel intricatis, costa incrassata elevataque infra vestimentum dense sericeum plano-convexa striataque, bilaterale sulcata, inferne gradatim valde ampliata et striis magis numerosis robustisque, nervis secundariis crassiusculis 1.5-3(-4) mm inter se distantibus (3-4 nervis in 1 cm) angulo 70-80° divergentibus (interdum 65-60°), cum nerviis tertiis etiam crassiusculis paulo minoribus et nervulis in reticulum elevatum minutum anastomosantibus, alveolis intrareticularibus valde profundis albo crispo-lanatis. Vagina coriacea vel subcoriacea ovato-oblonga vel interdum trapezoide-triangulara, apice attenuata deorsum leviter ampliata vel, interdum, in valde adulta basi maxime dilatata, triangulara, 4-5 cm longa, basi 3-7 cm lata argute multi-(20-30-)nervata, adaxiale circa apicem adpresse sericea excepta glabra, abaxiale

longe adpressequ sericeo-barbata pilis ad 10 mm longis dense tecta.

Inflorescentiae axillares racemiformi-paniculatae, elongatae, foliosissimae. Axis robustus ad 70 cm (-90) longus basi 2.5 cm crassus, argute striatus, primum dense albo-sericeo-barbatus pilis usque ad 10 mm longis, deinde magis intricatis indumento gossypino, ramificatione tantum $1/4$ superiori, parte integra a basi usque partem floriferam copiose foliosus, foliis valde elongatis linearibus amplexente vaginatis quam rosularibus similissimis, basilaribus 42-40 x 2.2-2 cm, usque ad sursum 23-20 x 1.7-1.5 cm gradatim decrescentibus, vaginis elongatis adpresse amplexentibus, parte ramosa foliis subtendentibus cum ceteris similibus sed gradatim brevioribus. Rami alterni dense lanati, in specimine adhuc juveniles non bene evoluti inferiores quam folia valde breviores, superiores folia attingentia supremi bene excedentes, plerumque 2-6 capitula pedicellata ferentes. Pedicelli 10-15 mm longi. Bractee subtendentes lanceolato-subulatae inferne amplexentes membranaceae plurinervatae, intus glabrae extremo excepto extus copiose longeque villosobarbatae. Rami ramusculi pedicellique dense crasseque albo-lanati.

Capitula radiata ligulis amotis depresso semiglobosa 15-16 mm lata, circulo ligularum 22-24 mm disco convexo 11-12 mm diametro, 170-220 flores ferentia. Involucrum turbinato-cupulare 15-16 mm diametro 7 mm altum, herbaceum, dense longe subsericeo-villosum fulvescenti-albidum. Phyllaria sterilia 8-9 sublanceolato-subulata acutaeque 13-10 x 3-2.5 mm, exteriora discum excedentia sed radios haud superantia, plana, supra acumine excepto glabra 5-7 nervis conspicuis, infra densissime antrorso-villosa subsericea pilis basi bulboso-ampliatas ceterum tenuissimis usque ad 8 mm longis, et glandulis columnaribus ad 0.07 mm interspersis. Phyllaria fertilia 9-6 x 3-2 mm sublanceolato-subulata acuta praecipue 5-nervata, extus dense longeque sericeo-villosa exteriora pilis dorso usque 6 mm longis altera pilis 3-1 mm, et glandulis 0.02-0.05 mm longis patulis praedita, interiora scariosa magis oblonga 4.5-5 x 1.2-1.4 mm, 3-nervata valde amplexentia extremo villosa vel hirtobarbulata et ciliata pilis circa 1 mm longis plus pilis brevioribus crassiusculis obtusis 0.2 mm longis, dorso etiam glandulis columnaribus plus minusve copiosis. Receptaculum conicum 5.5-7 mm diametro glabrum. Paleae 4.5-5 x 1.2-1.7 mm, scariosae, hyalinae, oblongae vel ovali-oblongae apice acutissimae, amplexentes costa conspicua nervis lateralibus 1-2 fere obsoletis, superne dorso margineque hirsutae ciliataeque pilis rigidis patulo-erectis subobtusis vel obtusis, interdum subclavatis, 0.2-0.8(-1) mm longis et parvis glandulis inconspicuis.

Flores marginales feminei ligulati 3-seriati, 55-66 in capitulo. Corolla alba, 8-10 mm longa, tubo 1.5-1.8 mm longo crassiusculo, copiose patulo-piloso, pilis mediocribus sed basi bulbiforme incrassatis obtusis vel subobtusis rigidulis paulo curvatis vel fere rectis 0.1-0.4(-0.5) mm longis plus glandulis columnaribus patulis robustis 0.02-0.07 mm longis copiose interspersis; apice tubo saepe dente adaxiale minutissimo; lamina 1.8-2.5 mm lata, oblonga basim versum leviter attenuata basi

aperta, apice paulo attenuata breviter 2-3-dentata, 5(-7)-nervata, adaxiale mamillato-papillosa, abaxiale basi pilosula plus glandulifera cetera sursum sparsis glandulis crassiusculis 0.02-0.04 mm conspicuis. Stylus 3-3.3 mm, ramis 1-1.2 mm longis. Ovaria juvenilia 2 mm, basi acuta triangulari dorso gibboso basi acuta, interiora laterale compressa.

Flores disci pseudohermaphroditi 116-134 in capitulo. Corolla lutescens 4.2-4.5 mm longa, tubo 1.2-1.5 mm longo crassiusculo copiosis glandulis columnaribus robustis patulis 0.04-0.07 mm longis et parcis vel parcissimis vel haud pilis hyalinis obtusis inferne incrassatis 0.1-0.3 mm, limbo tubuloso subglabro tantum basi raris pilis, lobis triangularibus acutis 0.8-1 mm longis margine valde incrassato et adaxiale dense papilloso, maturitate recurvatis abaxiale parcis pilis patulis obtusis 0.1-0.3 mm et parcis glandulis brevibus. Antherae 1.5 mm, sagittatae appendice ovata acutaque. Stylus 4-5 mm apice elongato-conico bilobato dense breviterque papilloso. Nectarium crassum tubulosum 0.6 mm longum edentatum.

Typus: Venezuela, Táchira: Páramo del Batallón, 3000 m alt, planta acaule, ejes inflorescenciales robustos, lígulas blancas, en lugares protegidos, siempre cañadas, 13 Ag 1974, M. López-Figueiras 9151; holotypus US, isotypus MERF. Ibidem, tallo 30 cm long, inflorescencias axilares en botón, López-Figueiras 9152, 9153. Ibidem in Quebrada Ferruginosa entre matorral andino 3300 m alt, rosetas grandes sésiles estériles, hojas con indumento apretado semiseríceo, 22 Jan 1973, Cuatrecasas, Ruiz-Terán & López-Figueiras 28408 (US, MERF).

ESPELETIA RODRIGUEZII Cuatr. sp. nov.

Arbuscula ad 8 m alta saepe sursum parce ramosa ramis extremo copiose comoso-foliosi. Caules sursum ramique teretes striolati nodosi internodiis 1.5-2 cm longis densissime crasseque adpresse barbatis pilis tenuissimis sericeis antrorsis 5-6 mm longis inter vaginas annulares et caulem valde compressis. Vaginae remanentes subcoriaceae, vulgo abaxiale 23 mm adaxiale 12 mm altae. Gemmae terminales et folia inicialia dense crasse adpresseque subtomentoso-villosa subvelutina subsericea viridi-albicantia. Rosulae foliorum latae laxae visu virides.

Folia ampla viridia coriacea petiolata. Lamina oblonga vel elliptico-oblonga utrinque attenuata, oblongo-lanceolata vel oblongo-oblanolota, apice acuta basi cuneata, irregulariter leviterque undulata margine revoluta visu integra sed adaxiale dentibus callosis mucroniformibus usque ad 0.8 mm longis reflexis 3-10 mm inter se distantibus cum indumentum cancellatis plus minusve conspicuis, 30-60 cm longa 7-13(-17) cm lata; supra juvenilis dense adpresse vel subadpresse villosa pilis tenuibus subrecutis acutis antrorsis ad 1 mm longis, ad costam albidovestitam densissimis 2(-2.5) mm longis, adulta rugulosa venulis impressis, puberula sed costa et nervis principalibus conspicuis impressis et minute tomentellis; subtus pallide griseo-viridula densissime villosa-subvelutina, costa robusta elevata subcarinata argute

striata, nervis secundariis robustis (0.8-)1-2 cm inter se irregulariter distantibus, angulo 60-70°(50-80) ascendentibus circa marginem arcuatis anastomosantibus, nervis tertiis et minoribus bene prominentibus reticulum minutum elevatum cum indumento velatum formantibus, pilis 1-2.5 mm longis patulo-ascendentibus parallelis densissimis indumentum molle aspectu tactoque velutino tectis, sed areolis intra reticulum pilis teneribus crispis albis instructis; lamina vetusta cum reticulo venulorum elevato bene conspicuo indumento depauperato sed semper densiuscule breviterque vestimento lanuginoso tecto. Petiolus robustus 2-4.5 cm longus, supra leviter sulcatus subtus subcarinatus striatus dense tomentosus, basi triangulatus in vaginam productus. Vagina subcoriacea rigida annularis 1-2 cm alta adaxiale usque ad 0.5 cm brevior, multivenosa extus dense longeque villosa-sericea, margine insuper plusminusve lanuginosa.

Inflorescentiae axillares corymboide paniculatae folia plus minusve aequilongae, 30-40 cm longae 10-25 cm expansae. Axis inferne robustus, striatus circa basim angulatus superficie saepe purpurascens sed insuper primum dense albido-villosus pilis subadpressis vel patulo-ascendentibus circa basim usque ad 6 mm longis ceteris sursum brevioribus, 2 mm longis, saepe deinde indumentum partim deciduum tantum pubescens, plerumque supra medium ramosus, sursum ramosissimus; parte inferiori integra plerumque duobus paribus foliis decussatis munita internodiis: primo 1-13 cm, secundo 1-10 cm, tertio 1.5-9 cm longo, foliis structura caulinariis similima sed brevioribus lamina late oblanceolata-oblonga acuta basi cuneata, inferioribus 14-26 x 4-5.5 cm, mediis 12-20 x 3-5.3 cm, petiolo 1.5-3 cm longo basi robusta triangulata in vaginam producta, vaginis decussato-connatis in annulo usque ad 1 cm alto instructo ramum cingenti. Prima divisione ramis plerumque oppositis vel suboppositis ceteris alternis. Rami ramulique rigidi striati ascendentes primum densiuscule deinde dilute sed copiose villosi vel hirtuli, pilis (3-2 mm) ochraceis acutis subrectis vel leviter flexuosis saepe caudatis subpatulis vel patulo ascendentibus vel paulo intricatis. Rami primarii tantum sursum ramosi, parte integra longa etiam 1-2 paribus foliis oppositis cum alteris similibus sed minoribus muniti; foliis subtendentibus cum sterilibus similibus sed sursum supra tertia ramificatione brevissimis in bracteas transientibus. Bracteae 15-5 x 3-1.5(-1) mm, inferne late sublanceolatae acutae sessiles semiamplectentes, sursum gradatim breviores angustioresque, extus dense ochraceo-antrorso-villosae. Pedicelli 1.5-5 cm longi, teneri erecti ebracteolati dilute vel copiose hirtuli, pilis patulo-ascendentibus tenuibus leviter flexuosis ad 2 mm longis, capitula singula parva erecta vel nutantia ferentes.

Capitula parva, radiata 52-80 flores ferentia, ligulis amotis 7-10 mm diametentia, subglobosa, circulo ligularum 17-22, disco convexo 7-10 mm diametro. Involucrum cupulatum viride sed ferrugineo-pubescente, circa 3 mm altum. Phyllaria sterilia saepe 5, interdum 1-2 additionalia interiora, 3.5-4.5 x 2-3.2 mm,

herbaceo-subcoriacea rigidula, ovata subiteque acutata vel ovato-acuminata, plus minusve calloso-apiculata, basi rotundata, conspicue plurivenosa, concava incurva, intus glabra nitidaque, extus dense vel dilute subadpresse villosa-pubescentis et ciliata pilis mediocribus acutis vel subacutis ad 1 mm longis, et glandulis capitato-pediculatis ad 0.05 mm longis vel subsessilibus interspersis. Phyllaria fertilis 4.5-4 x 2.5-1.8 mm subcoriacea ovato-acuminata vel oblongo-obovato-acuminata apice angulato et calloso-apiculato acutoque, basin versus angustata et magis amplectentia, plurivenosa, basi excepta dorso pubescenti marginibus ciliatis pilis antrorsis subadpressis brunneo-fuscis acutis vel obtusis ad 0.5 mm longis, interiora breviora ad 3.5 x 1.8-2 mm subscariosa ovali-oblonga apice angulata acuta amplectentia dorso costa carinato-elevata sursum antrorso-pilosa pilis acutis et obtusis vel subclavatis 0.2-0.4 mm, plus glandulis crassiusculis interspersis ad margines conspicuis 0.03-0.05 mm longis, vel obovoideis subsessilibus. Receptaculum ovoideo-conicum hirtum 2-3 mm diametro 2 mm altum, pilis hyalinis obtusis erectis, 0.1-0.7 mm. Paleae 4-3.5 x 2-1.3 mm, scariosae ovali-oblongae vel oblongo-obovatae apice triangulato apiculato acuto, basin versus attenuatae valde amplectentes, pluribus venis albidis saepe bene conspicuis costa elevato-subcarinata sursum subapice densiuscule barbulatae pilis erectis rubrofuscis crassiusculis acutis subobtusis et subclavatis 0.2-0.4 mm et copiosis glandulis capitato-pediculatis brevibus sed crassiusculis praecipue ad margines conspicuis.

Flores radii feminei 13-18 in capitulo 2-seriati. Corolla lutea 6-9 mm longa; tubo 0.8-1 mm apice annulo interno incrassato et minuto dente adaxiali obtuso exserto saepe conspicuo, extus dense patulo-antrorso-barbato pilis plus minusve flexuosis intricatisque vel rectis, crassiusculis, hyalinis, obtusis, 1(-1.5) mm longis et glandulis capitatis 0.02-0.03 mm interspersis: lamina elliptica vel elliptico-oblonga vel obovato-oblonga 2.2-3.2 mm lata, apice rotundata breviter 2-3 dentata vel retusa basin attenuata aperta, conspicue 4-7-nervata, adaxiale minute mamillato-papillosa abaxiale dilute vel sparse pilosa pilis obtusis ad 0.5 mm et sparsis glandulis globosis sessilibus vel subsessilibus. Stylus 2.5-3 mm ramulis 1-1.2 mm longis. Achaenia nigra 2-2.3 x 1.5-2 mm obovata argute triangulata basi acute cuneata, dorso paulo convexo curvato, parca interiora laterale compressa irregulariter triangulata vel subquadrangulata 1-1.2 mm lata.

Flores disci pseudohermaphroditi 40-61 in capitulo. Corolla lutea 3.5-4.5 mm longa; tubulo 1.5-2 mm longo copiose vel parce piloso pilis patulo-antrorsis hyalinis crassiusculis obtusis 0.2-0.5(-0.8) mm, et glandulis pediculate-capitatis ad 0.06 mm sparsis vel raris; limbo infundibuliformi basi parvis vel parvissimis pilis vel glandulis, lobis oblongo-triangularibus acutis 0.7-0.8 mm longis margine incrassato dense papilloso, extus parvis vel parvissimis pilis fuscis obtusis vel subclavatis 0.1-0.3(-0.4) mm et parvis glandulis subsessilibus. Antherae 1.5-1.6 mm longae basi sagittatae appendice apicali ovata 0.45-0.5 mm longa. Stylus 4-5 mm sursum incrassatus. Nectarium 0.6-0.7 mm

longum tubulosum apice saepe paulo aperto.

Typus: Venezuela, Mérida: Betania, entre Páramo de Las Coloradas y El Molino, 2400 m, árbol 8 m ramificado, lígulas amarillas, 18-20 Jun 1974, López-Figueiras & Henry Rodríguez 9050; holotypus, US; isotypus MERF. Entre la capilla del Páramo de Las Coloradas y El Molino, 2600 m, arb. 5-6 m, algunos ramificados desde 1 m, otros indivisos, hojas coriáceas, inflorescencia axilar, lígulas amarillas, 18-20 Jun 1974, López-Figueiras & Henry Rodríguez 9049; MERF, US, paratypi. Páramo de Las Coloradas, borde camino frente a los potreros de San Rafael, 2700 m, arbusto ramificado 2-3 m, lígulas amarillas 18 Apr 1974, López-Figueiras & Carabot-Cuervo 8995 (MERF, US). Id. id. Los Aserruchos, 2800 m, tallo 5 m, hojas coriáceas, verdes, verdoso grisáceas más claras envés, vaina envolvente, estéril, 8 Feb 1973, Cuatrecasas, Ruiz-Terán & López-Figueiras 28514 (MERF, US).

SENECIO BATALLONENSIS Cuatr. sp. nov.

Frutex parvus ad 0.5 m altus valde intricate divaricatus ramosus foliosusque. Rami ultimi foliiferi dense crasse adpressequ albo-lanati, denique cicatricosi plus minusve lanuginosi, vetusti glabrati brunnescentes; rami majores robusti brunnei.

Folia crasse coriacea rigida breviter petiolata, alterna. Lamina elliptica basi obtusa vel rotundata apice obtuse subiteque mucronulata vel brevissime attenuata subapiculataque, 12-25 mm longa, 6-14 mm lata, margine satis revoluta visu integra vel levissime undulato-dentata, dentibus remotis callosis acutis antrorsis 0.2-0.4 mm longis patulis vel reflexis obsoletisque; supra viridis vernicosa nitidissima glaberrima tantum costa signata impressa ad basin lanata, nervis secundariis 4-7 utroque latere leviter depressis plus minusve notatis vel obsoletis; subtus crasse densissimeque cinereo-crispis-lanata, costa crassa elevata tantum conspicua etiam lanata nervis lateralibus obsoletissimis, superficie infra indumentum enervia sublaevi. Petiolus crassus 1-2 mm longus late vaginans ad ramum adpressus extus dense lanatus.

Inflorescentiae terminales rotundato-paniculatae 3-7 cm latae, basi foliosae, congeste floribundae, ramulis ramusculisque alternis angulatis brevibus crassis dense crassiusculeque incano-lanatis; pedicelli crassi 1-3 mm longi dense lanati; bracteae subtendentes coriaceae elliptico-oblongae vel oblongae adaxiales virides vernicosae adaxiales lanatae.

Capitula discoidea elongato-cupulata circa 8-9 mm alta 7-9 mm diametientia, disco convexo visu luteo, 40-70 flores ferentia. Calyculus 7-8 bracteolis subcoriaceis linearibus attenuatis subacutis 4.2-5.2 x 1.3-1.8 mm, inferne vel omnium apice excepto dense lanatis, ad apicem pedicelli gradatim instructis. Involucrum pallido-viride, campanulatum basi albo-lanatum phyllaria 8, crassiuscula, interiora latiora 6.1-6.5 x 3.5-3.8 mm ovalia apice subacutata margine membranacea, tria exteriora 6.2-6.6 x

1.8-2 mm oblonga sursum attenuata, intermedia late oblonga 6.1-6.5 x 2.5(-3-3.2), apice minutissime pilosula, marginibus parce pilosula, dorso sursum glabra, basim versus plus minueve basi dense lanuginea. Receptaculum convexum 2.5-3 mm diam, marginibus alveolorum longe fimbriatis squamis acutis 1 mm longis. Flores omnes hermaphroditi. Corolla 4.8-5.4 mm longa viridilutescens, apice luteola, glabra, tubo 1.2-1.5 mm longo, limbo tubuloso, lobis triangularibus acutis patulis vel recurvis 0.8-0.9 mm longis margine ad apicem dense papilloso-piloso pilis ad 0.075 mm. Antherae 1.6 mm longae basi sagittatae minuteque caudatae, cauda 0.15 mm. Filamenta infra insertionem antherae incrassata. Rami styli exserti apice asymmetricice truncato, penicillato-coronato, pilis 0.05-0.1(-0.25) mm obtusis, marginibus late papilloso-stigmaticis. Ovarium glabrum 5-striatum basi annulo calloso. Pappus 2(-3)-seriatus 5 mm longus, pilis scabridis apice inaequaliter bidentatis.

Typus: Venezuela, Táchira: Páramo del Batallón, en loma despejada, paramuna, con espeletietum, 9 km de la Torre de Televisión, 3400 m alt, frútex 20-50 cm, hoja coriácea rígida verde brillantísima haz, cinéreo-afelpada envés, involucros verde claros, disco amarillo, corolas verdoso-amarillentas, estilos amarillos, 22 Jan 1973, Cuatrecasas, Ruiz-Terán & López-Figueiras 28415; holotypus US; isotypus MEF.

Senecio batallonenis belongs to section *Granata* Cuatr., being closely related to *S. andicola* Turcz. The endemic species from Páramo del Batallón is distinguished by its dwarf and compact almost prostrate habit, by the elliptic, subsessile, thick leaves, by the glomerate inflorescences with short, thick pedicels bearing relatively larger heads, and by the compact, lanate indumentum on branchlets, leaves (beneath) and inflorescences.

SENECIO LIBERTATIS Cuatr. sp. nov.

Frutex 1-2 m altus. Rami erecti striati copiose cicatricoso-tuberculati ad cicatrices copiose antrorso-barbati ceterum plus minusve lanuginosum. Ramuli elongati erecti dense foliosi internodiis brevibus densiuscule barbatis pilis flexuosis ascendentibus vel intricatis 1-1.5 mm longis.

Folia alterna brevia subsessilia crasse coriacea plumbo-viridia, antrorsa vel patulo-antrorsa. Lamina 6.5-10 x 2-3.2(-3.6) mm carnosula oblonga apicem leviter attenuata subacuta vel subobtusata circa basim attenuata et in pseudopetiolum 1-1.5 mm longum et latum vaginantem transiens; margine crenata crenis saepe fere deplanatis sed sinubus argutis et longe barbulatis pilis in juvenile statu usque ad 1 mm tenuissimis flexuosis copiosis intricatisque in vetustis saepe contractis vel reductis; utrinque in vivo laevis enervia margine non incrassata, in sicco rugulosa et interdum margine leviter crassiori, saepe paulo incurva seu abaxiale convexa, costa vulgo inconspicua interdum adaxiale leviter impressa (in sicco) et ad basim lanuginosula, reliqua superficie glaberrima. Pseudopetiolus 1-1.5 mm longus 1 mm latus, crassus,

extus carinatus, adaxiale sulcatus breviterque lanuginosus ad basim barbatus, erectus ad caulem adpressus.

Inflorescentiae terminales corymbosae, folia valde excedentes, usque ad 20 capitulis radiatis graciliter pedicellatis instructae. Pedicelli 1.5-2.5 cm longi, teneri, argute striati, luteo-virides, laxae albido-lanuginosi pilis patulis tenuibus valde flexuosis albis intricatis vestiti, bracteolati bracteolis alternis membranaceis linearibus acutatis sparse ciliolatis 4-3 x 1-0.7 mm, luteo-viridibus, ad apicem 7-9 bracteolis lineari triangularibus, 2.3-3 x 0.8-1 mm ad modum calyculi dispositis. Capitula cylindracea 7-9 mm alta circulo ligularum 11-15 mm, disco 4-5 mm diametro. Involucrum tubulosum viride 4-4.5 mm altum 4 mm diam. Phyllaria 13 in capitulo, crassa, 3.7-4 mm alta, exteriora lineari subulata circa 0.9 mm lata, interiora cum margine scarioso ovalia 1.3 mm lata sed visu etiam linearia, omnia acuta apice ad marginem ciliolato reliqua glabra. Receptaculum planum alveolatum marginibus alveolorum dentatis, 2.2-2.4 mm diametro. Flores marginales feminei ligulati 5-8 in capitulo; corolla lutea 6.5-7.5 mm longa, crassiuscula, tubo 2 mm longo glabro, lamina elliptica vel oblongo-elliptica 2 mm lata, apice rotundata minuteque bidentata, tenuiter 4-7-nervata, basi adaxiale in angulo acuto aperta, omnis glabra sed apice argute mamillato-papillosa; stylus 3.5 mm ramis subulatis 0.7 mm; ovarium 1 mm glabrum. Flores hermaphroditi 15-20 in capitulo; corolla lutea 4.3-4.8 mm longa, glabra, tubo 2.2 mm, limbo tubuloso, lobis 0.8-1 mm longis, oblongo-triangularibus apice paulo incrassato acuto minute cucullato, conspicuissime mamillato-papilloso; filamenta infra antheram valde incrassata, antherae 1.5 mm longae basi acutissime sagittatae; ovaria 1.5 mm glabra; rami styli apice truncato papilloso breviter piloso-coronato, adaxiale duobus lineis stigmaticis crassis, abaxiale sursum longe papilloso. Achaenia elliptico-oblonga, 2.2 mm longa 0.5 mm lata basi crasse callosa obtuse 5 costata cum 5 venis conspicuis et 5 venis alternantibus fere obsoletis. Pappus albus 3-3.5 mm altus pilis biseriatis strigosus extremo leviter ampliatis, saepe apice inaequaliter et acute 2-3-dentatis.

Typus: Venezuela, Mérida: Páramo de Las Coloradas, Loma de la Libertad arriba de El Portachuelo (El Ramal), 2850 m alt, arbusto 1-2 m, lígulas y flósculos amarillos, 8 Febr 1973, Cuatrecasas, Ruiz-Terán & López-Figueiras 28512; holotypus, US; isotypus MERF.

Senecio libertatis belongs to section *Arbutoides* Cuatr., being closely related to *S. pachypus* Greenm and *S. quioranus* Cuatr. From both relatives it differs mainly in its oblong leaves, acute at apex and narrowed basally into the short petiole, the blades being thick and smooth in life, leadish-green and dull, without thickened margins, the teeth being less prominent, usually almost flattened in the new species with deep notches provided with a long bunch of slender, intricate, flexuose hairs. Besides, the leaves are ascendent slightly incurved, rather concave or sulcate adaxially. The other two mentioned species have ovate or elliptic leaf blades rounded or obtuse at base, thickly marginate beneath, stronger crenate, and usually

bent in a spreading or reflexed position. The thinner hairs at the branchlets and other features of the bracts distinguish also *S. libertatis*. Furthermore, *S. pachypus* differs by its shining leaves.

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